Diagra type			

Sheet

+ 395, no persons are required to respond to

2

PTO/SB/08A (8-00) (Modified)
Approved for use through 10/31/2002. OMB 0651-0031

B. Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
to respond to sellection of information unless it displays a valid OMB control number

Under the Paparwork Reduction Act of 1995, no persons are

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Complete if Known

PADPRICATION Number 09/905,593

Filing Date July 13, 2001

First Named Inventor Lynn E. VANATTA

Group Art Unit To Be Assigned

Examiner Name To Be Assigned

Attorney Docket Number 25185-P001US

		-		U.S. PATENT DOCUM	ENTS	S. Cohama Lines
Examiner Initials	Cite No.1	U.S. Patent Do	Kind code ²	Name of Patentee or Applicant of cited document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
			(II WIOWII)			

			FORE	GN PATENT DOCUME	NTS			
Examiner	Cite	U.S. Patent Do		Name of Patentee or Applicant of cited document	Date of Publication of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant		
initials No.*	No.¹	Office ³ Number ⁴	Kind code ^s (if known)	Applicant of other constitution	MM-DD-YYYY	Figures Appear	Te	
							+-	
	_ \		D PÔIOR ART	NON PATENT LITERAT	TURE DOCUMENTS	3		
Examiner Initials OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Examiner Initials No.¹ Cite Include name of the author (in CAPITAL LETTERS), title of the appropriate), title of the them (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.							₹²	
8	1	Mass Spectrome Thermo Quest C	Weise, Wendy, "News Release - New Brochure Describes the Finnigan LCQ DUO Ion Trap Mass Spectrometer", http://www.thermoquest.com/pressroom/PR70.html , Thermo Quest Corporation, December 11, 2000.					
	2	Dionex/Summits HPLC/MS; http 11, 2000.	Dionex/Summit/AQA HPLCMS Product Introduction; "Introducing the New Summit/AQA HPLC/MS; http://www.dionex.com/app/tree.taf?asset_id=68895 , December 11, 2000.					
	3	1-8, 1994		trator Columns in Ion C				
	4	DIONEX, "Deta Note 45, pp. 1-1	ermination of Ti	race Anions in Concent	rated Hydrofluoric	: Acid"; Technical		
	5	DIONEX, ; "De 46, pp. 1-11 199	termination of	Trace Anions in Concer	ntrated Glycolic Ad	cid", Technical Note		
	6	DIONEX, "Deta Note 78, 1994	DIONEX, "Determination of Trace Anions in Concentrated Hydrofluoric Acid", Application Note 78, 1994					
	7	DIONEX, "Det Pretreatment/Io	DIONEX, "Determination of Trace Anions in Concentrated Bases Using AutoNeutralization Pretreatment/Ion Chromatography" Application Note 93, August, 1994					
TV	8	DIONEX, "Det Pretreatment/lo	DIONEX, "Determination of Trace Cations in Concentrated Acids Using AutoNeutralization Pretreatment/Ion Chromatography", Application Note 94, August, 1994.					
			T					

Sheet 2 of 2

			1 370 3		SII	eet 2 01 2
8	9	SMALL, Hamish, et al., "No Conductimetric Detection", September 1975	Analy an Amaly Shr	omatographic M Vol. 47, No. 11,	lethod Using pp. 1801-1809,	
				· · · · · · · · · · · · · · · · · · ·		
				· · · · · · · · · · · · · · · · · · ·		
Examine Signatur				Date Considered	3/18/09	

*EXAMINER: Initial if reference considered, whether or not cription is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ¹For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁴Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent & Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

HOUSTON_1\512182\1 09/05/2001 - 25185-P001US Please type a plus sign (+) inside this box ->
Under the Paperwork Reduction

PTO/S8/0BA (8-00) (Modified)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

substitute for form 1449A/PTO

Sheet

SINFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of 1 1

Ť			
I	C	mplete if Kn wn	
I	Application Number	09/905,593	
	Filing Date	July 13, 2001	
	First Named Inventor	Lynn E. VANATTA	
	Group Art Unit	2812	:
	Examiner Name	To Be Assigned	
-	Attorney Docket Number	25185-P001US	

			U.S. PATENT DOCUM	ENTS	Pages, Columns, Lines
Examiner nitials	Cite No.	U.S. Patent Document Kind c		Date of Publication of Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear
-		(0.64)	Moon et al.	06/12/2001	
<u> </u>		6,245,227	Kato et al.	05/22/2001	
		6,236,042	Apffel, Jr. et al.	10/03/2000	
	ļ	Re. 36,892	Fischer et al.	08/22/2000	
-		6,106,710	Chiang	08/08/2000	
}	 	6,100,522	Kato et al.	01/12/1999	
	ļ	5,859,432	Kato et al.	08/04/1998	
_		5,789,746	Kato et al.	12/03/1996	
<u> -</u> -	<u> </u>	5,581,081	Hagiwara	11/21/1995	
	 	5,468,452	Apffel, Jr. et al.	09/05/1995	
	——	5,447,553	Takahashi et al.	11/29/1994	
	┼	5,368,727	Whitt	07/19/1994	
	 	5,331,160	Apffel, Jr. et al.	07/19/1994	
	 	5,331,159	Ohnuma et al.	05/31/1994	
	-	Des. 347,396	Willoughby	02/08/1994	
	—	5,285,064	Ligon et al.	11/30/1993	t
		5,266,192	Kato et al.	08/31/1993	
	-	5,240,616	Apffel, Jr. et al.	06/29/1993	
		5,223,131	Asakawa et al.	05/26/1992	
	-	5,117,109	Slivon et al.	01/01/1991	
	4	4,982,097	Dom et al.	12/25/1990	
		4,980,057	Willoughby	11/06/1990	
		4,968,885	Andresen et al.	09/19/1989	
lacksquare		4,867,947	Brandt et al.	09/05/1989	
	-	4,863,491		07/25/1989	
$oldsymbol{oldsymbol{\sqcup}}$	_ _	4,851,700	Goodley Salsairi et al	02/11/1986	
$\vdash \downarrow$		4,570,068	Sakairi et al.	07/28/1981	
11		4,281,246	White, V et al.	07/03/1979	·
		4,160,161	Horton Missagi et al	09/05/1978	
	Ц.	4,112,297	Miyagi et al.	11/01/1977	
L	} _	4,055,987	McFadden McLafferty et al.	12/14/1976	
	11-	3,997,298		12/07/1971	
	44-	3,626,178	Cohen	12/04/2001	
	₩,	6,325,976	Small et al.	06/20/2000	
L	41/	6,077,434	Srinivasan et al.	02/22/2000	
L	JX	6,027,643	Small et al.	06/22/1999	
1	1-	5,914,025	Small	01/28/1997	
12	X	5,597,734 5,569,365	Small et al. Rabin et al.	10/29/1996	

0				
	5,352,360	Stillian et al.	10/04/1994	
4)	5,316,630	Dasgupta	05/31/1994	
T	5,248,426	Stillian et al.	09/28/1993	
T	4,999,098	Pohl et al.	03/12/1991	·
T	4,455,233	Pohl et al.	06/19/1984	
	4,314,823	Rich, Jr. et al.	02/09/1982	·
1/	4,265,634	Pohl	05/05/1981	
V	4,242,097	Rich, Jr. et al.	12/30/1980	
*	5,773,615	Small et al.	06/30/1998	

				FOR	EIGN PATENT DOCUMEN	ITS		_
Examiner nitials	Cite No.1	Office	U.S. Patent Document Number ⁴	Kind code ⁵ (if known)	Name of Patentee or Applicant of cited document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T
K.		EP	0 536 930	A 1	Apffel et al.	04/14/1993		Τ
7		EP	0 510 510	A2	Carlo Erba Strumentazione S.p.A.	10/28/1992		
\top		EP	0 417 976	A2	Eisai Co., Ltd.	03/20/1991		L
1		EP	0 343 972	A2	Hewlett-Packard Company	11/29/1989		
		EP	0 342 884	Al	Hewlett-Packard Company	11/23/1989		,
\top		EP	0 338 572	Al	Hitachi, Ltd.	10/25/1989		
1		EP	0 259 796	A3	Sepragen Corporation	03/16/1988		
		EP	0 152 747	_ A2	American Cyanamid Company	08/28/1985		
		EP	0 510 510	A3	Carlo Erba Strumentazione S.p.A.	10/28/1992		
		EP	0 417 976	A3	Eisai Co., Ltd.	03/20/1991		
	1	EP	0 259 796	A2	Sepragen Corporation	03/16/1988		ŀ
7		EP	0 338 572	Bl	Hitachi, Ltd.	10/25/1989		
		EP	0 898 167	Al	Dionex Corporation	02/24/1999		Ŀ
		EP	0 555 962	A2	Dionex Corporation	08/18/1993		ŀ
		EP	0 180 321	Bl	Dionex Corporation	05/07/1986		
1		EP	0 133 782	A1	Dionex Corporation	03/06/1985		
		EP	0 133 781	Al	Dionex Corporation	03/06/1985		
		EP	0 646 239	Bl	Dionex Corporation	04/05/1995		Ĺ
		EP	0 555 962	A3	Dionex Corporation	08/18/1993		
		EP	0 898 167	Bl	Dionex Corporation	02/24/1999		
		EP	0 758 449	B1	Dionex Corporation	02/19/1997		
		EP	0 671 002	B1	Dionex Corporation	09/13/1995		\perp
		wo	01/80283	A1	Waters Investments Limited	10/25/2001	•	
		wo	01/67091	A1	Dionex Corporation	09/13/2001		L
		wo	01/67090	Al	Dionex Corporation	09/13/2001		
\mathbf{M}_{\bullet}		wo	00/42426	Al	Dionex Corporation	07/20/2000		L
U		wo	99/44054	Al	Dionex Corporation	09/02/1999		L
<u> </u>		wo	99/11351	Al	Dionex Corporation	03/11/1999		L
7		wo	98/30314	Al	Dionex Corporation	07/16/1998		1

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	ſ
xaminer nitials	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the Item (book, magazine, journal, sertal, symposium, catalog, etc.), date, page(s), volume-issue number(s), Publisher, city, and/or country where published.	Τ²
Z		KAISER, Edward, Rohrer, Jeffrey S. and Watanabe, Kazuo, Determination of Trace Anions in Concentrated Weak Acids by Ion Chromatography, Journal of Chromatography A, 850, 1999, pp. 167-176, Elsevier Science, Amsterdam.	
		VANDERFORD, Griselda, Determination of Trace Anions in Hydrofluoric Acid by Ion Chromatography, 602, 1992, pp. 75-78, Elsevier Science, Amsterdam.	_
		MURAYAMA, Mitsunori, Suzuki, Masao and Takitani, Shoji, Determination of Trace Anionic Impurities in Concentrated Inorganic Acids by Recycle Ion Chromatography, 466, 1989, pp. 355-363, Elsevier Science, Amsterdam.	
		MOHSIN, Sheher Bano, Use of lon Chromatography – electrospray mass spectrometry for the Determination of Ionic Compounds in Agricultural Chemicals, Journal of Chromatography A, 884, 2000, pp. 23-30, Elsevier Science, Amsterdam.	
		AHRER, Werner and Buchberger, Wolfgang, Analysis of Low-Molecular-Mass Inorganic and Organic Anions by Ion Chromatography-Atmospheric Pressure Ionization Mass Spectrometry, Journal of Chromatography A, 854, 1999, pp. 275-287, Elsevier Science, Amsterdam.	
		BUCHBERGER, Wolfgang and Ahrer, Werner, Combination of Suppressed and Non-Suppressed Ion Chromatography with Atmospheric Pressure Ionization Mass Spectrometry for the Determination of Anions, Journal of Chromatography A, 850, 1999, pp. 99-106, Elsevier Science, Amsterdam.	/
		CHARLES, L., and Pepin, D., Analysis of Oxyhalides in Water by Ion Chromatography-Ionspray Mass Spectrometry, Journal of Chromatography A, 804, 1998, pp. 105-111, Elsevier Science, Amsterdam.	(
		ALEXANDER, James N., Quinn, Chad J., Organic Acid Analysis by Ion Chromatography-Particle Beam Mass Spectrometry, Journal of Chromatography, 647, 1993, pp. 95-100, Elsevier Science, Amsterdam.	
		SEUBERT, A., Schminke, G., Nowak, M., Ahrer, W. and Buchberger, W., Comparison of On-Line Coupling of Ion-Chromatography with Atmospheric Pressure Ionization Mass Spectromety and with Inductively Coupled Plasma mass Spectrometry as Tools for the Ultra-Trace Analysis of Bromate in Surface Water Samples, Journal of Chromatography A, 884, 2000, pp. 191-199, Elsevier Science, Amsterdam.	
-		BUCHBERGER, Wolfgang and Haider, Karl, Studies on the Combination of Ion Chromatography-Particle-Beam Mass Spectrometry with Capillary Columns, Journal of Chromatography A, 770, 1997, pp. 59-68, Elsevier Science, Amsterdam.	1
		VILLASENOR, Steven R., "Heart-Cut" Column Switching Techniques for the Determination of an Aliphatic Amine in an Organic Matrix and for Low Levels of Sulfate in an Anion Matrix, Journal of Chromatography A, 671, 1994, pp. 11-14, Elsevier Science, Amsterdam.	(
		WEIR, S.I., Butler, E.C.V., Haddad, P.R., Ion Chromatography with UV Detection for the Determination of Thiosulfate and Polythionates in Saline Waters, Journal of Chromatography A, 671, 1994, pp. 197-203, Elsevier Science, Amsterdam.	(
		KILLGORE, Kendall J., and Villasenor, Steven R., Systematic Approach to Generic Matrix Elimination via "heart-cut" Column-Switching Techniques, Journal of Chromatography A, 739, 1996, pp. 43-48, Elsevier Science, Amsterdam.	/
V	-	MEDINA, Hilda Ledo de, Gutierrez, Elizabeth, Colina de Vargas, Marinela, Gonzalez, Graciela, Marin, Julio and Andueza, Eduardo, Determination of Phosphate and Sulphite in Natural Waters in the Presence of High Sulphate Concentrations by Ion Chromatography Under Isocratic Conditions, Journal of Chromatography A, 739, 1996, pp. 207-215, Elsevier Science, Amsterdam.	1
K)	HUANG, Yuan, Mou, Shi-Fen, Liu, Ke-Na and Rivielo, J.M., Simplifies Column-Switching Technology for the Determination of Traces of Anions in the Presence of High Concentrations of	'

٠.

\searrow	Other Anions, Journal of Chromatography A, 884, 2000, pp. 53-59, Elsevier Science, Amsterdam.	
	GJERDE, D.T., Cox, D.J., Jandik, P. and Li, J.B., Determination of Analytes at Extreme Concentration Ratios by Gradient Ion Chromatography with Solid-Phase Reaction Detection, Journal of Chromatography, 546, 1991, pp. 151-158, Elsevier Science, Amsterdam.	_
	SINGH, Raj P., Abbas, Nureddin, M. and Smesko, Sally A., Suppressed Ion Chromatographic Analysis of Anions in Environmental Waters Containing High Salt Concentrations, Journal of Chromatography A, 733, 1996, pp. 73-91, Elsevier Science, Amsterdam.	4
	NOVIC, Milko, Kivjak, Blaz and Pihlar, Boris, On-Column Processes in Ion Chromatographic Determination of Nitrite and Nitrate in Heavy Mineralised Samples, Journal of Chromatography A, 827, 1998, pp. 83-89, Elsevier Science, Amsterdam.	
	KAISER, Edward, Rohrer, Jeffrey S. and Jensen, Detlef, Determination of Trace Anions in Hig Nitrate Matrices by Ion Chromatography, Journal of Chromatography A, 920, 2001, pp. 127-13 Elsevier Science, Amsterdam.	
	SIRIRAKS, Archava, Pohl, Christopher A. and Toofan, Mahmood, Determination of Trace Anions in Concentrated Acids by Means of a Moderate-Capacity Anion-Exchange Column, Journal of Chromatography, 602, 1992, pp. 89-95, Elsevier Science, Amsterdam.	
	CHARLES, L., Pepin, D and Casetta, B., Electrospray Ion Chromatography-Tandem mass Spectrometry of Bromate at Sub-ppb Levels in Water, Analytical Chemistry, August 1, 1996, pp. 2554-2558, Vol. 68, No. 15.	/
	CHARLES, L., and Pepin, D., Electrospray Ion Chromatography-Tandem Mass Spectrometry of Oxyhalides at Sub-ppb Levels, Analytical Chemistry, January 15, 1998, pp. 353-359, Vol. 70, No. 2.	
	MOHSIN, Sheher Bano, Ion Chromatography Coupled with Mass Spectrometry for the Determination of Ionic Compunds in Agricultrual Chemicals, Analytical Chemistry, August 15, 1999, pp. 3603-3609, Vol. 71, No. 16.	
	LACOURSE, William R., Column Liquid Chromatography: Equipment and Instrumentation, Analytical Chemistry, June 15, 2000, pp. 37R-51R, Vol. 72, No. 12.	•
	BURLINGAME, A.L., Boyd, Robert K. and Gaskell, Simon J., Mass Spectrometry, Analytical Chemistry, June 15, 1996, pp. 599R-651R, Vol. 68, No. 12.	
	WILLOUGHBY, Ross, Sheehan, Edward and Mitrovich, Samuel, A Global View of LC/MS: How to Solve Your Most Challenging Analytical Problems, Global View Publishing, Pittsburgh, Pennsylvania	
	ROEDER, V. and Jardy, A., Determination of Inorganic Contaminants in Concentrated Reagents by Ion Chromatography, Analusia, March 1996, pp. 43-48, Elsevier, Paris, France.	
\$	Buldini, Pier Luigi, Sharma, Jawahar Lal and Sarma, Shikha, Determination of Tace Amounts of Anionic Imputities in Hydrochloric Acid by Ion Chromatography, The Analyst, January 1994, pp. 121-124,	

Examiner		Date	2601
Signature		Considered	5 11 860 7
	/-/-/		<i>'</i>

*EXAMINER: Initial if reference considered whether ornot citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴Vind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent & Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.